



SMITHCO. ENGINEERING GROUP, INC.

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WISSAHICKON CHARTER SCHOOL LEAD IN WATER SAMPLING FINAL REPORT

PREPARED FOR: WISSAHICKON CHARTER SCHOOLS 4700 Wissahickon Ave. Philadelphia, PA 19144

PREPARED BY: SMITHCO ENGINEERING GROUP, INC. 808 Market Street, Suite 336 Camden, New Jersey 08102

DATE: December 11, 2019

SERVING OUR CLIENTS WITH A COMMITMENT TO PARTNERSHIP, ALLIANCE, INFORMATION AND CORPORATE INTEGRITY

WISSAHICKON CHARTER SCHOOL LEAD IN WATER SAMPLING FINAL REPORT

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MASTERY CHARTER SCHOOLS OF CAMDEN LEAD IN WATER SAMPLING FINAL REPORT

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1.0 BACKGROUND

THE SMITHCO ENGINEERING GROUP, INC. (SMITHCO) was authorized by the Wissahickon Charter School to undertake lead in water sampling.

- ✓ Fernhill Campus
- ✓ Awbury Campus

The Scope of Services were conducted pursuant to the regulations and guidance documents from the Bureau of Safe Drinking Water of the Pennsylvania Department of Environmental Protection (PADEP) having principal responsibility to administer the programs and activities of the Federal Safe Drinking Water Act (40 CFR 141, 142, 143), the Pennsylvania Department Safe Drinking Water Act (P.L. 206, No. 43 CL. 35) and the Environmental Protection Agency (EPA) 3Ts for Reducing Lead in Drink Water in Schools, Revised Technical Guidance.

2.0 APPROACH

2.1 Standard for Safe Drinking Water in Pennsylvania

Public health is of paramount importance in the determination of what constitutes safe drinking water. Drinking water standards are developed by both the Federal and State governments. Quality standards adopted into regulations are the minimum considered necessary for the maintenance of public health. The standards are set for biological contaminants, dissolved chemicals and suspended particulate matter.

2.2 Safe Drinking Water Compliance Requirements

The EPA recommends that schools collect 250 mL first –draw samples from water fountains and outlets. It is also recommended that the water fountains or outlets that exceed 15 parts per billion (ppb) or 0.015 milligrams of lead per liter of water (mg/L). The EPA and City of Philadelphia strongly recommends that all water outlets in all schools that provide water for drinking or cooking meet the standard of 15 ppb of lead or less.

2.3 Lead Sampling Collect ion Approach and Reporting

- (1) All water samples were collected be 250 milliliters (mL) in volume.
- (2) Water samples were collected before the facility opens and before any water is used. Ideally, the water should have sat in the pipes unused for at least 8 hours before the sample is taken.
- (3) It was assured by personnel that no water had been withdrawn from the taps which the samples were to be collected prior to their sampling.
- (4) A unique sample identification number was assigned to each sample collected use the sampling schematic or numbering system. Record the identification number on the sample bottle and the chain-of-custody form (*see attached*).
- 2.3.1 Samples were collected as an "initial draw" method. The water was not run first; the sampling technician collected the first flow of water from the tap directly into the pre-cleaned, 250 mL sampling container supplied by the laboratory.
- 2.3.2 At the point source for sampling, gloves were utilized for sampling.
- 2.3.2. The bottles/containers were labeled with client information, school information and location of sampling point, complete this before placing the collected sample(s) in a cooler.
- 2.3.3. After sampling was completed, contact independent laboratory to inform them a pick up is needed; a Chain of Custody (COC) is completed and executed with the representative of the laboratory.

3.0 ANAYLTICAL FINDINGS & DISCUSSIONS

3.1 Code Reference Tables

TABLE 1 OUTLET / PLUMBING /SAMPLE CODE				TABLI FUNC	E 2 FIONAL SPACES
CODE	TYPE OF OUTLET OR PLUMBING	INITIAL SCREENING	FOLLOW-UP	CODE	FUNCTIONAL SPACE
		(1 ST DRAW) SAMPLES	SAMPLES		
S	Services Connection To Distribution Main	18	1M	KI	Kitchen
А	Bubblers Without Central Chiller	1A	2A	GY	Gymnasium
В	Bubbler With Central Chiller	1B	2B	CF	Cafeteria
-	Central Chiller Unit	-	3B,4B	TC	Teachers' Cafeteria
С	Water Cooler	1C	2C, 3C, 4C	BC	Boys' Cafeteria
D	Bottled Water Dispensers	1D	2D	GC	Girls' Cafeteria
Е	Ice Making Machines	1E	2E	CR	Classroom
F	Water Faucets (Tap)	1F	2F	HA	Hallway
				BR	Bathroom
	Interior Plumbing			GB	Girls' Bathroom
G	Laterals	-	1G	BB	Boys' Bathroom
Н	Headers	-	1H	RM	Room
Ι	Loops	-	11	OF	Office
J	Risers	-	1J	LB	Laboratory
		1	1	LI	Library

TABLE 3 FLOOR CODES		
CODE	FLOOR	
SB	Sub-Basement	
BS	Basement	
MZ	Mezzanine	
01	1 st Floor	
02	2 nd Floor	
03	3 rd Floor	
04	4 th Flooretc.	

TABLE 4			
CONSTRUCTION DATE CODE			
CODE	CONSTRUCTION		
0	Original Construction		
1	1 st Addition		
2	2 nd Addition		
3	1 st Modernization		
4	2 nd Modernization		

RM	Room
OF	Office
LB	Laboratory
LI	Library
МО	Medical Office
во	Boiler Room
LR	Locker Room
NM	Natatorium
WP	Water Meter/Pump Room
SS	Slop Sink

3.2 Analytical Results

Comprehensive laboratory results of 42 samples taken are presented in ATTACHMENT 2.

SAMPLE ID	ANALYTICAL RESULT LEAD
1F-WP-01-0	16.4 ppb
2F-WP-01-0	2,620 ppb

3.2.1 Fernhill Campus

¹ Water fountains or outlets that exceed 15 parts per billion (ppb) or 0.015 milligrams of lead per liter of water (mg/L). Micrograms per liter (ug/L) is essentially the same as parts per billion.

3.2.2 Awbury Campus

ALL RESULT WAS NONE DETECTED EXCEPT FOR ONE AT THE POINT OF ENRTY INTO THE BUILDING WHICH WAS BELOW THE REGULARTORY LIMITS OF 15 PPB.

4.0 INTERPRETATION OF ANALYTICAL RESULTS

4.1 FERNHILL CAMPUS

SAMPLE ID	ANALYTICAL RESULT LEAD	COMMENTS
1F-WP-01-0	16.4 ppb	1. Sample taken from Service Connection. It is highly unlikely children will be drinking from this outlet
2F-WP-01-0	2, 620 ppb	1. Sample taken from Service Connection. It is highly unlikely children will be drinking from this outlet

5.0 CONCLUSIONS AND RECOMMENDATIONS

Solutions to lead problems typically need to be made on an interim (short-term) and on a permanent basis. In addition, there are routine measures that should be taken. You should work closely with maintenance staff and any plumbers who may make repairs. Make sure that users are familiar with the use of new fixtures you install.

Outlined below are various routine, interim and permanent remedies.

5.1 Routine Control Measures

Below are examples of routine activities that should be conducted to prevent exposure to elevated levels of lead:

- Create aerator (screen) cleaning maintenance schedule and clean debris from all accessible aerators frequently.
- Use only cold water for food and beverage preparation. Hot water will dissolve lead more quickly than cold water and is likely to contain increased lead levels. If hot water is needed, it should be taken from the cold water tap and heated on a stove or in a microwave oven.
- Instruct the users (students and staff) to run the water before drinking or staff could run the water before students arrive, so they are drinking water that has not been in contact with the faucet interior since faucets are often a major source of lead in drinking water.
- Placard bathroom sinks with notices that water should not be consumed.
 You should use pictures if there are small children using bathrooms.

5.2 Interim (Short-Term) Control Measures

Some examples of interim control measures include:

1) "Flush" the piping system in your building. "Flushing" involves opening suspect taps every morning before the facility opens and letting the water run to remove water that has been standing in the interior pipes and/or the outlets. The flushing time varies by the type of outlet being cleared. The degree to which flushing helps reduce lead levels can also vary depending upon the age and condition of the plumbing and the corrosiveness of the water. Flushing instructions are presented in Exhibit 5.1.

Exhibit 5.1: Flushing Directions by Outlet Type

Remember that each drinking water outlet should be flushed individually; flushing a toilet will not flush your water fountains. All flushing should be recorded in a log submitted daily to the office, or person, in charge of this program.

- Locate the faucet furthest away from the service line on each wing and floor of the building, open the faucets wide, and let the water run for 10 minutes. For best results, calculate the volume of the plumbing and the flow rate at the tap and adjust the flushing time accordingly. This 10-minute time frame is considered adequate for most buildings.
- Open valves at all drinking water fountains without refrigeration units and let the water run for roughly30 seconds to one minute, or until cold.
- Let the water run on all refrigerated water fountains for 15 minutes. Because of the long time period required, routinely flushing refrigerated fountains may not be feasible. It may therefore be necessary, and more economical, to replace these outlets with lead-free, NSF-approved devices.
- Open all kitchen faucets (and other faucets where water will be used for drinking and/or cooking) and let the water run for 30 seconds to one minute, or until cold.
- 2) Provide bottled water. This can be an expensive alternative but might be warranted if you expect or are aware of widespread contamination and flushing is not an option. If you use bottled water, be aware that it is not regulated by EPA but rather by the Food and Drug Administration (FDA). EPA recommends that you require a written statement from the bottled water distributor guaranteeing that the bottled water meets FDA and state standards.
- **3)** Shut off problem outlets. If initial sample results from an outlet exceed 15 ppb, the outlet can be shut off or disconnected until the problem is resolved. If the outlet had been frequently used, bottled water could be provided as a temporary replacement.

5.3 Permanent Remedies

There are a number of actions to permanently reduce or eliminate the sources of lead that originate in your building's plumbing. Some of these actions may allow the elimination or reduction of routine flushing or other interim measures. After obtaining an understanding of your water supply and the lead conditions in your facility (as a result of testing), we should examine the permanent treatment options and select those most appropriate to your situation. Obviously, your decision will be based on such factors as cost, likelihood of success, availability of water and staffing requirements.

1) **Replacement**. If the sources of lead contamination are localized and limited to a few outlets, replacing these outlets or upstream components may be the most practical solution.

- 2) Lead levels can be reduced at the tap. Reverse osmosis units are commercially available and can be effective in removing lead. Since these devices also tend to make the water corrosive, they should only be used when placed at water outlets. Such devices are termed point-of-use (POU) devices. POU devices can be used to treat faucets or taps, but would not be used on drinking water fountains. There are a number of POU cartridge filter units on the market that effectively remove lead.
- **3)** Check grounding wires. Electrical current may accelerate the corrosion of lead in piping materials. Existing wires already grounded to the water pipes can possibly be removed by a qualified electrician, and replaced by an alternative grounding system.
- **4)** Lead pipe replacement. Lead pipes within the school and those portions of the lead service lines under the water supplier's jurisdiction can be replaced.
- 5) **Reconfigure plumbing**. In some facilities, the plumbing system might be modified so that water supplied for drinking or cooking is redirected to bypass sources of lead contamination. Before undertaking such an alternative, be certain of the sources of lead contamination. Follow-up testing would also be necessary, as with the other remedies, to ensure that the efforts result in reduced lead levels at the tap.
- 6) Manual flushing. Flushing individual problem outlets or all outlets may also represent a permanent, albeit ongoing, solution. There are advantages and disadvantages to flushing. Flushing is often the quickest and easiest solution to high lead levels, especially when contamination is localized in a small area or in a small building.
- 7) SMITHCO's Automatic flushing. Time-operated solenoid valves can be installed and set to automatically flush the main pipes (headers) of the system. It is important to note that solenoid valves are not practical for flushing water coolers. They would have to be flushed manually by staff.
- 8) Bottled water. If other treatment fails or is impractical, bottled water can be purchased for consumption by the building community. As noted under the interim remedies section above, make sure that the bottled water you select meets federal and/or state standards for lead and other drinking water contaminants. EPA recommends that you require a written statement from the bottled water distributor guaranteeing that the lead levels in the water do not exceed 5 ppb.
- **9)** Use lead-free materials. Make sure that any plumber who does repair or replacement work on the facility's plumbing system uses only "lead-free" solders and other materials.
- **10)** Shut off problem outlets. If initial sample results from an outlet exceed 20 ppb, the outlet can be shut off or disconnected permanently. If the outlet had not been used regularly, this may be a viable option. However, if the outlet had been frequently used, this is probably not a practical solution.

ATTACHMET 1 PLUMBING PROFILE QUESTIONNAIRE W/ OUTLETS IDENTIFIED

PLUMBING PROFILE QUESTIONS	ANSWERS
1. When was the original building constructed?	Awbury had been constructed in 2014
 Were any buildings or additions added to the original facility? If so, complete a separate plumbing profile for each building, addition, or wing. 2. If built or repaired since 1986, were lead- free plumbing and solder used in accordance with the lead-free requirements of the 1986 Safe Drinking 	led free
water Act Amendments?	
What type of solder has been used?	
3. Where were the most recent plumbing repairs made (Note locations)?	none
4. With what materials is the service connection (the pipe that carries water to the school from the public water system's main in the street) made?	Cooper
Note the location where the service connection enters the building and connects to the interior plumbing.	Boiler Room
 5. Specifically, what are the potable water pipes made of in your facility (note the locations)? Lead Plastic Galvanized Metal Cast Iron Copper Other Note the location of the different types of pipe, if applicable, and the direction f water flow through the building. Note the areas of the building that receive water first, and which areas receive water last. 	Cooper
6. Do you have tanks in your plumbing system (pressure tanks, gravity storage tanks)?	No none
Note the location of any tanks, and any available information about that tank; e.g., manufacturer, date of installation	
 Was lead solder used in your plumbing system? Note the locations with lead solder. 	No None

Awbury Campus Plumbing Profile Questionnaire

 Are brass fittings, faucets, or valves used in your drinking water system? (Note: most faucets are brass on the inside.) 	cooper
You may want to note the locations on a map or diagram of your facility and make extensive notes that would facilitate future analysis of lead sample results.	
 9. How many of the following outlets provide water for consumption? Note the locations. Water Coolers Bubblers Ice Makers Kitchen Taps Drinking Fountain or Taps 	Bubblers: none Ice makers:1 Kitchen taps :5 Drinking fountain:6
10. Has your school checked the brands and models of water coolers and compared them to the listing of banner water coolers? Note the location of any banned coolers.	Elky
11. Do outlets that provide drinking water have accessible screens or aerators? (Standard faucets usually have screens. Many coolers and bubblers also have screens.) Note the locations.	Yes
12. Have these screens been cleaned? Note the locations.	Screens cleaned as needed or if they become logged or noticeably dirty
13. Can you detect signs of corrosion, such as frequent leaks, rust-colored water, or stained dishes or laundry? Note the locations.	None
14. Is any electrical equipment grounded to water pipes? Note the locations.	None
15. Have there been any complaints about bad (metallic) taste? Note the locations.	None

 16. Check building files to determine whether any water samples have been taken from your building for any contaminants (also check with your public water supplier). Name of contaminant(s)? What concentration of these contaminants were found? What was the pH level of the water? Is testing done regularly at your facility? 	No samples taken
 17. Other plumbing questions: Are blueprints of the building available? Are there known plumbing "dead ends", low use areas, existing leaks or other "problem areas"? Are renovations being planned for part or all of the plumbing system? 	Plans are available at main campus None None
18. Bathrooms:	
• Location	
Boys and Girls	
Gym bathrooms	
Principal office	
19. Sinks:	
Locations	
• 5 kitchen sinks	
Main office	

PLUMBING PROFILE QUESTIONS	ANSWERS
1. When was the original building constructed?	Fernhill was constructed in 1919
 Were any buildings or additions added to the original facility? If so, complete a separate plumbing profile for each building, addition, or wing. 2. If built or repaired since 1986, were lead- free plumbing and solder used in accordance with the lead-free requirements of the 1986 Safe Drinking Water Act Amendments? 	unknown
What type of solder has been used?	
3.Where were the most recent plumbing repairs made (Note locations)?	Middle school water fountain inside 108
4. With what materials is the service connection (the pipe that carries water to the school from the public water system's main in the street) made?	Unknown
Note the location where the service connection enters the building and connects to the interior plumbing.	
 5. Specifically, what are the potable water pipes made of in your facility (note the locations)? Lead Plastic Galvanized Metal Cast Iron Copper Other Note the location of the different types of pipe, if applicable, and the direction f water flow through the building. Note the areas of the building that receive water first, and which areas receive water last. 	Cooper
6. Do you have tanks in your plumbing system (pressure tanks, gravity storage tanks)?Note the location of any tanks, and any available information about that tank; e.g., manufacturer, date of installation	Unknown
 Was lead solder used in your plumbing system? Note the locations with lead solder. 	Yes but locations unknown

Fernhill Campus Plumbing Profile Questionnaire

 8. Are brass fittings, faucets, or valves used in your drinking water system? (Note: most faucets are brass on the inside.) You may want to note the locations on a map or diagram of 	Not sure
your facility and make extensive notes that would facilitate future analysis of lead sample results.	
 9. How many of the following outlets provide water for consumption? Note the locations. Water Coolers Bubblers Ice Makers Kitchen Taps Drinking Fountain or Taps 	3 sinks in kitchen 3 water coolers 6 water fountains 1 ice maker
10. Has your school checked the brands and models of water coolers and compared them to the listing of banner water coolers? Note the location of any banned coolers.	The brand is whirlpool
11. Do outlets that provide drinking water have accessible screens or aerators? (Standard faucets usually have screens. Many coolers and bubblers also have screens.) Note the locations.	Yes
12. Have these screens been cleaned? Note the locations.	Yes screens are cleaned as needed or if they become clogged or are noticeably dirty
13. Can you detect signs of corrosion, such as frequent leaks, rust-colored water, or stained dishes or laundry? Note the locations.	None detected
14. Is any electrical equipment grounded to water pipes? Note the locations.	None
15. Have there been any complaints about bad (metallic) taste? Note the locations.	No

16. Check building files to determine whether any water samples have been taken from your building for any contaminants (also check with your public water supplier).	none
 Name of contaminant(s)? What concentration of these contaminants were found? What was the pH level of the water? Is testing done regularly at your facility? 	
 Other plumbing questions: Are blueprints of the building available? Are there known plumbing "dead ends", low use areas, existing leaks or other "problem areas"? Are renovations being planned for part or all of the plumbing system? 	Yes plans are at the main campus No No
Bathrooms: 100 hathroom	See attached Floor Plans
 109 bainroom 10 boys and girls bathrooms 	
 Nurse bathroom 	
Basement bathroom	
19. Sinks:	
• 2 slop sinks 1 ^a floor	
• 4 kitchen sinks	
 Teacher Tounge sink 7 water fountains 	



Attn:

Sean Smith Smithco Engineering Group 808 Market St Camden, NJ 08102

Phone: (856) 365-9111 Fax: (856) 365-9333

The following analytical report covers the analysis performed on samples submitted to EMSL Analytical, Inc. on 12/4/2019. The results are tabulated on the attached data pages for the following client designated project:

Wissahickon Charter- Fernhill Campus

The reference number for these samples is EMSL Order #011915326. Please use this reference when calling about these samples. If you have any questions, please do not hesitate to contact me at (856) 303-2500.

Approved By:

Phillip Worby, Environmental Chemistry Laboratory Director



The test results contained within this report meet the requirements of NELAP and/or the specific certification program that is applicable, unless otherwise noted. NELAP Certifications: NJ 03036, NY 10872, PA 68-00367, CA ELAP 1877

The samples associated with this report were received in good condition unless otherwise noted. This report relates only to those items tested as received by the laboratory. The QC data associated with the sample results meet the recovery and precision requirements established by the NELAP, unless specifically indicated. All results for soil samples are reported on a dry weight basis, unless otherwise noted. This report may not be reproduced except in full and without written approval by EMSL Analytical, Inc.

12/6/2019

EMSL	EMS 200 Ro Phone/	SL Analytical, Inc. ute 130 North, Cinnaminson, NJ 08077 Fax: (856) 303-2500 / (856) 858-4571 ww.EMSL.com EnvChemist	try2@emsl.cor	<u>n</u>			EMSL O Custome Custome ProjectIE	rder: erID: erPO: D:	011915326 SMCG99	
Attn: Sean Smith Smithco Er 808 Market Camden, N	ngino St J 08	eering Group 102		Phone: Fax: Received:	((1	856) 365-9111 856) 365-9333 2/04/19 9:00 A	M			
Project: Wissahickor	n Cha	rter- Fernhill Campus		Decul						
Client Sample Descrip	tion	1F-WP-01-0 WATER PUMP OTHER BUILDING	larytical	Colle	.s ected:	12/4/2019 6:54:00 AM	Lab	ID:	011915326-00	01
Method	Pa	arameter	Result	RL	Units		Prep Date & An	alyst	Analysis Date & Anal	yst
METALS										
200.8	Le	ad	16.4		I.00 μg/L	. 1	2/4/2019	JD	12/05/19 16:07	JW
Client Sample Descrip	tion	2F-WP-01-0 2ND DRAW WATER PUMP		Colle	ected:	12/4/2019 6:55:00 AM	Lab	ID:	011915326-00	02
Method	Pa	arameter	Result	RL	Units		Prep Date & An	alyst	Analysis Date & Anal	yst

2620 D

50.0 µg/L

12/4/2019

JD

12/05/19 16:54 JW

METALS

200.8

Definitions:

Lead

MDL - method detection limit J - Result was below the reporting limit, but at or above the MDL ND - indicates that the analyte was not detected at the reporting limit RL - Reporting Limit (Analytical)

D - Dilution



Attn:

Sean Smith Smithco Engineering Group 808 Market St Camden, NJ 08102

Phone: (856) 365-9111 Fax: (856) 365-9333

The following analytical report covers the analysis performed on samples submitted to EMSL Analytical, Inc. on 12/6/2019. The results are tabulated on the attached data pages for the following client designated project:

Wissahickon Charter-Fernhill Campus

The reference number for these samples is EMSL Order #011915439. Please use this reference when calling about these samples. If you have any questions, please do not hesitate to contact me at (856) 303-2500.

Approved By:

Phillip Worby, Environmental Chemistry Laboratory Director



The test results contained within this report meet the requirements of NELAP and/or the specific certification program that is applicable, unless otherwise noted. NELAP Certifications: NJ 03036, NY 10872, PA 68-00367, CA ELAP 1877

The samples associated with this report were received in good condition unless otherwise noted. This report relates only to those items tested as received by the laboratory. The QC data associated with the sample results meet the recovery and precision requirements established by the NELAP, unless specifically indicated. All results for soil samples are reported on a dry weight basis, unless otherwise noted. This report may not be reproduced except in full and without written approval by EMSL Analytical, Inc.

12/9/2019

Attn: Sean Smith	ASL Analytical, Inc. Route 130 North, Cinnaminson, N. Ine/Fax: (856) 303-2500 / (856) 85 ://www.EMSL.com E	1 08077 8-4571 invChemistry2@emsl.con	<u>n</u> Phone: (Fax: (856) 365-9111 856) 365-9333	EMSL Order: CustomerID: CustomerPO: ProjectID:	011915439 SMCG99
Smithco Eng 808 Market S Camden, NJ Project: Wissahickon C	t 08102 harter-Fernhill Campus	A	Received: 1	12/06/19 9:00 A	M	
Client Sample Descriptio	n 1F-KI-01-0 KITCHEN	Analytical	Collected:	12/6/2019 6:16:00 AM	Lab ID:	011915439-0001
Method	Parameter	Result	RL Units		Prep Date & Analyst	Analysis Date & Analyst
METALS						
200.8	Lead	ND	1.00 µg/L	12	2/6/2019 SK	12/06/19 16:00 SK
Client Sample Description	n 2F-KI-01-0 2ND DRAW		Collected:	12/6/2019 6:17:00 AM	Lab ID:	011915439-0002
Method	Parameter	Result	RL Units		Prep Date & Analyst	Analysis Date & Analyst
METALS						
200.8	Lead	ND	1.00 µg/L	- 12	2/6/2019 SK	12/06/19 16:05 SK
Client Sample Descriptio	n 1F-TC-01-0 TEACHERS CAFÉ SINK		Collected:	12/6/2019 6:42:00 AM	Lab ID:	011915439-0003
Method	Parameter	Result	RL Units		Prep Date & Analyst	Analysis Date & Analyst
METALS						
200.8	Lead	ND	1.00 µg/L	- 12	2/6/2019 SK	12/06/19 16:06 SK
Client Sample Descriptio	n 2F-TC-01-0 2ND DRAW		Collected:	12/6/2019 6:43:00 AM	Lab ID:	011915439-0004
Method	Parameter	Result	RL Units		Prep Date & Analyst	Analysis Date & Analyst
METALS						
200.8	Lead	ND	1.00 µg/L	- 12	2/6/2019 SK	12/06/19 16:08 SK
Client Sample Descriptio	n 1F-BB-01-0 BOYS BATHROOM 111		Collected:	12/6/2019 6:38:00 AM	Lab ID:	011915439-0005
Method	Parameter	Result	RL Units		Prep Date & Analyst	Analysis Date & Analyst
METALS						
200.8	Lead	ND	1.00 µg/L	- 12	2/6/2019 SK	12/06/19 16:09 SK

Attn: Sean Smith	ISL Analytical, Inc. Route 130 North, Cinnaminson, NJ 0 ne/Fax: (856) 303-2500 / (856) 858- //www.EMSL.com En	<mark>/8077</mark> 4571 <u>vChemistry2@emsl.com</u>	Phone: Fax:	(856) 365-911 ⁻ (856) 365-9333	EMSL Order CustomerID CustomerPO ProjectID:	r: 011915439 : SMCG99 D:
808 Market St Camden, NJ (Project: Wissahickon Cl	harter-Fernhill Campus		Received:	12/06/19 9:00	АМ	
Client Sample Description	2F-BB-01-0	Analytical	Collected:	12/6/2019 6:34:00 AM	Lab ID:	011915439-0006
Method	Parameter	Result	RL Unit	s	Prep Date & Analys	Analysis st Date & Analyst
METALS						
200.8	Lead	ND	1.00 µ	g/L	12/6/2019	SK 12/06/19 16:14 SK
Client Sample Description	IF-GB-01-0 GIRLS BATHROOM 111		Collected:	12/6/2019 6:40:00 AM	Lab ID:	011915439-0007
Method	Parameter	Result	RL Unit	S	Prep Date & Analys	Analysis st Date & Analyst
METALS						
200.8	Lead	ND	1.00 µ	g/L	12/6/2019 8	SK 12/06/19 16:15 SK
Client Sample Description	2F-GB-01-0 2ND DRAW		Collected:	12/6/2019 6:41:00 AM	Lab ID:	011915439-0008
Method	Parameter	Result	RL Unit	S	Prep Date & Analys	Analysis st Date & Analyst
METALS						
200.8	Lead	5.19	1.00 µ	g/L	12/6/2019 8	SK 12/06/19 16:17 SK
Client Sample Description	1F-MO-01-0 NURSE SINK		Collected:	12/6/2019 6:27:00 AM	Lab ID:	011915439-0009
Method	Parameter	Result	RL Unit	S	Prep Date & Analys	Analysis st Date & Analyst
METALS						
200.8	Lead	ND	1.00 µ	g/L	12/6/2019 \$	SK 12/06/19 16:18 SK
Client Sample Description	2F-MO-01-0 2ND DRAW		Collected:	12/6/2019 6:28:00 AM	Lab ID:	011915439-0010
Method	Parameter	Result	RL Unit	S	Prep Date & Analys	Analysis st Date & Analyst
METALS						
200.8	Lead	ND	1.00 µ	g/L	12/6/2019 5	SK 12/06/19 16:20 SK

ENSL 200 Pho http://www.com/com/com/com/com/com/com/com/com/com/	MSL Analytical, Inc. P Route 130 North, Cinnaminson, NJ 08077 one/Fax: (856) 303-2500 / (856) 858-4571 c://www.EMSL.com EnvChemist	ry2@emsl.co	<u>m</u>		EMSL Order: CustomerID: CustomerPO: ProjectID:	011915439 SMCG99
Attn: Sean Smith Smithco Eng 808 Market S Camden, NJ Project: Wissahickon C	ineering Group t 08102 Charter-Fernhill Campus		Phone: Fax: Received:	(856) 365-9111 (856) 365-9333 12/06/19 9:00 /	3 AM	
	Ar	nalytica	I Results			
Client Sample Descriptio	n 1B-HA-01-0 WATER FOUNTAIN ACROSS FROM	1 108	Collected:	12/6/2019 6:18:00 AM	Lab ID:	011915439-0011
Method	Parameter	Result	RL Units		Prep Date & Analyst	Analysis Date & Analyst
METALS						
200.8	Lead	ND	1.00 µg/	L 1	2/6/2019 SK	12/06/19 16:22 SK
Client Sample Descriptio	n 2B-HA-01-0 2ND DRAW		Collected:	12/6/2019 6:19:00 AM	Lab ID:	011915439-0012
Method	Parameter	Result	RL Units		Prep Date & Analyst	Analysis Date & Analyst
METALS						
200.8	Lead	ND	1.00 µg/	L 1	2/6/2019 SK	12/06/19 16:26 SK
Client Sample Descriptio	n 1 1B-HA-01-0 WATER FOUNTAIN OUTSIDE GYM		Collected:	12/6/2019 6:47:00 AM	Lab ID:	011915439-0013
Method	Parameter	Result	RL Units		Prep Date & Analyst	Analysis Date & Analyst
METALS						
200.8	Lead	ND	1.00 µg/	L 1	2/6/2019 SK	12/06/19 16:28 SK
Client Sample Descriptio	n 1 2B-HA-01-0 2ND DRAW		Collected:	12/6/2019 6:48:00 AM	Lab ID:	011915439-0014
Method	Parameter	Result	RL Units		Prep Date & Analyst	Analysis Date & Analyst
METALS						
200.8	Lead	ND	1.00 µg/	L 1	2/6/2019 SK	12/06/19 16:32 SK
Client Sample Descriptio	n 1 1B-HA-01-0 WATER FOUNTAIN OUTSIDE 107		Collected:	12/6/2019 6:34:00 AM	Lab ID:	011915439-0015
Method	Parameter	Result	RL Units		Prep Date & Analyst	Analysis Date & Analyst
METALS						
200.8	Lead	ND	1.00 µg/	L 1	12/6/2019 SK	12/06/19 16:34 SK

Attn: Sean Smith	ISL Analytical, Inc. Route 130 North, Cinnaminson, NJ (he/Fax: (856) 303-2500 / (856) 858 //www.EMSL.com <u>Er</u>	0 8077 -4571 ∙ <mark>vChemistry2@emsl.com</mark>	Phone:	(856) 365-911	EMSL Orde CustomerIE CustomerP ProjectID:	эг: 011915439 D: SMCG99 'O:
Smithco Engi 808 Market St Camden, NJ 0 Project: Wissahickon Cl	neering Group 98102 narter-Fernhill Campus		Fax: Received:	(856) 365-933: 12/06/19 9:00	3 AM	
		Analytical	Results			
Client Sample Description	2 2B-HA-01-0 2ND DRAW		Collected:	12/6/2019 6:35:00 AM	Lab ID): 011915439-0016
Method	Parameter	Result	RL Units		Prep Date & Analy	Analysis /st Date & Analyst
METALS						
200.8	Lead	ND	1.00 µg	/L	12/6/2019	SK 12/06/19 16:35 SK
Client Sample Description	SCIENCE ROOM 130		Collected:	12/6/2019 6:51:00 AM	Lab ID): 011915439-0017
Method	Parameter	Result	RL Units		Prep Date & Analy	Analysis /st Date & Analyst
METALS						
200.8	Lead	ND	1.00 µg	/L	12/6/2019	SK 12/06/19 16:37 SK
Client Sample Description	2F-CR-01-0 2ND DRAW		Collected:	12/6/2019 6:52:00 AM	Lab ID): 011915439-0018
Method	Parameter	Result	RL Units		Prep Date & Analy	Analysis /st Date & Analyst
METALS						
200.8	Lead	ND	1.00 µg	/L	12/6/2019	SK 12/06/19 16:38 SK
Client Sample Description	1 1F-CR-01-0 ART ROOM		Collected:	12/6/2019 6:32:00 AM	Lab ID): 011915439-0019
Method	Parameter	Result	RL Units		Prep Date & Analy	Analysis /st Date & Analyst
METALS						
200.8	Lead	ND	1.00 µg	/L	12/6/2019	SK 12/06/19 16:40 SK
Client Sample Description	1 2F-CR-01-0 2ND DRAW		Collected:	12/6/2019 6:33:00 AM	Lab ID): 011915439-0020
Method	Parameter	Result	RL Units		Prep Date & Analy	Analysis /st Date & Analyst
METALS						

1.00 µg/L

12/6/2019

SK

ND

Lead

200.8

12/06/19 16:41 SK

EN	200 Phot	ISL Analytical, In Route 130 North, Cinnaminson ne/Fax: (856) 303-2500 / (8: //www.EMSL.com	IC. on, NJ 08077 56) 858-4571 <u>EnvChemistry2@emsl.com</u>	1		EMSL Order: CustomerID: CustomerPO: ProjectID:	011915439 SMCG99
Attn: So Si 8(Ca Project:	ean Smith mithco Engi 08 Market St amden, NJ (^{Wissahickon Cl}	neering Group :)8102 harter-Fernhill Campus		Phone: Fax: Received:	(856) 365-9111 (856) 365-9333 12/06/19 9:00 AM		
			Analytical	Results			
Client Sa	mple Description	1F-CR-108-01-0 CLASSROOM 108		Collected:	12/6/2019 6:23:00 AM	Lab ID:	011915439-0021
						Prep	Analysis

Method	Parameter	Result	RL Units	Date & Analyst	Date & Analyst
METALS					
200.8	Lead	ND	1.00 µg/L	12/6/2019 SK	12/06/19 16:54 SK
Client Sample Description	n 2F-CR-108-01-0 2ND DRAW		Collected: 12/6/20 6:24:00	019 Lab ID: AM	011915439-0022
Method	Parameter	Result	RL Units	Prep Date & Analyst	Analysis Date & Analyst
METALS					
200.8	Lead	ND	1.00 µg/L	12/6/2019 SK	12/06/19 16:58 SK

Definitions:

MDL - method detection limit J - Result was below the reporting limit, but at or above the MDL ND - indicates that the analyte was not detected at the reporting limit RL - Reporting Limit (Analytical)

D - Dilution



Attn:

Sean Smith Smithco Engineering Group 808 Market St Camden, NJ 08102

Phone: (856) 365-9111 Fax: (856) 365-9333

The following analytical report covers the analysis performed on samples submitted to EMSL Analytical, Inc. on 12/3/2019. The results are tabulated on the attached data pages for the following client designated project:

Wissahickon Charter-Awbury Campus

The reference number for these samples is EMSL Order #011915283. Please use this reference when calling about these samples. If you have any questions, please do not hesitate to contact me at (856) 303-2500.

Approved By:

Phillip Worby, Environmental Chemistry Laboratory Director



The test results contained within this report meet the requirements of NELAP and/or the specific certification program that is applicable, unless otherwise noted. NELAP Certifications: NJ 03036, NY 10872, PA 68-00367, CA ELAP 1877

The samples associated with this report were received in good condition unless otherwise noted. This report relates only to those items tested as received by the laboratory. The QC data associated with the sample results meet the recovery and precision requirements established by the NELAP, unless specifically indicated. All results for soil samples are reported on a dry weight basis, unless otherwise noted. This report may not be reproduced except in full and without written approval by EMSL Analytical, Inc.

12/5/2019

ENSL 200 Pho http://www.com/com/com/com/com/com/com/com/com/com/	MSL Analytical, Inc. D Route 130 North, Cinnaminson, NJ 08077 one/Fax: (856) 303-2500 / (856) 858-4571 b://www.EMSL.com EnvChem	istry2@emsl.cor	<u>n</u>		EMSL Order: CustomerID: CustomerPO: ProjectID:	011915283 SMCG99
Attn: Sean Smith Smithco Eng 808 Market S Camden, NJ Project: Wissahickon C	ineering Group it 08102 Charter-Awbury Campus		Phone: Fax: Received:	(856) 365-9111 (856) 365-9333 12/03/19 9:00 /	3 AM	
	А	nalytical	Results			
Client Sample Descriptio	n 1F-KI-01-0 KITCHEN HAND WASH SINK BAC	KDOOR	Collected:	12/3/2019 6:10:00 AM	Lab ID:	011915283-0001
Method	Parameter	Result	RL Units		Prep Date & Analyst	Analysis Date & Analyst
METALS						
200.8	Lead	ND	1.00 µg/l	_ 1	12/4/2019 SK	12/04/19 13:32 SK
Client Sample Descriptio	n 2F-KI-01-0 2ND DRAW		Collected:	12/3/2019 6:11:00 AM	Lab ID:	011915283-0002
Method	Parameter	Result	RL Units		Prep Date & Analyst	Analysis Date & Analyst
METALS						
200.8	Lead	ND	1.00 µg/l	_ 1	12/4/2019 SK	12/04/19 13:37 SK
Client Sample Descriptio	n 01 1F-KI-01-0 FRONT DOOR SINK		Collected:	12/3/2019 6:12:00 AM	Lab ID:	011915283-0003
Method	Parameter	Result	RL Units		Prep Date & Analyst	Analysis Date & Analyst
METALS						
200.8	Lead	ND	1.00 µg/l	_ 1	12/4/2019 SK	12/04/19 13:38 SK
Client Sample Descriptio	n 01 2F-KI-01-0 2ND DRAW FRONT DOOR SINK		Collected:	12/3/2019 6:13:00 AM	Lab ID:	011915283-0004
Method	Parameter	Result	RL Units		Prep Date & Analyst	Analysis Date & Analyst
METALS						
200.8	Lead	ND	1.00 µg/l	- 1	12/4/2019 SK	12/04/19 13:40 SK
Client Sample Descriptio	n 02 1F-KI-01-0 HAND WASH BY THE FRIDGE		Collected:	12/3/2019 6:14:00 AM	Lab ID:	011915283-0005
Method	Parameter	Result	RL Units		Prep Date & Analyst	Analysis Date & Analyst
METALS						
200.8	Lead	ND	1.00 µg/l	_ 1	12/4/2019 SK	12/04/19 13:41 SK

Attn: Sean Smith	ISL Analytical, Inc. Route 130 North, Cinnaminson, NJ 08077 ne/Fax: (856) 303-2500 / (856) 858-4571 //www.EMSL.com EnvChemistr	<u>γ2@emsl.con</u>	n Phone:		(856) 365-911	EMSL O Custome ProjectII	order: erID: erPO: D:	011915283 SMCG99	
Smithco Engi 808 Market St Camden, NJ C Project: Wissahickon Cl	neering Group 98102 narter-Awbury Campus		Fax: Received:		(856) 365-933: 12/03/19 9:00 -	3 AM			
Client Sample Description	An	alytical	Result	S	12/2/2010	Lak		011015282.000	
Client Sample Description	2ND DRAW		Colle	ectea:	6:15:00 AM	Lab	D:	011915283-000	0
Method	Parameter	Result	RL	Units		Prep Date & An	alyst	Analysis Date & Analy	/st
METALS									
200.8	Lead	ND	1	l.00 µg/l	<u> </u>	12/4/2019	SK	12/04/19 13:43	SK
Client Sample Description	9 1B-GY-01-0 GYM WATERFOUNTAIN		Colle	ected:	12/3/2019 6:25:00 AM	Lab) ID:	011915283-000)7
Method	Parameter	Result	RL	Units		Prep Date & An	alyst	Analysis Date & Analy	/st
METALS									
200.8	Lead	ND	1	l.00 µg/l	<u> </u>	12/4/2019	SK	12/04/19 13:44	SK
Client Sample Description	9 2B-GY-01-0 GYM WATERFOUNTAIN 2ND DRAW		Colle	ected:	12/3/2019 6:26:00 AM	Lab	D:	011915283-000	08
Method	Parameter	Result	RL	Units		Prep Date & An	alyst	Analysis Date & Analy	/st
METALS									
200.8	Lead	ND	1	l.00 µg/l	<u> </u>	12/4/2019	SK	12/04/19 13:49	SK
Client Sample Description	n 1F-CF-01-0 CAFETERIA SINK		Colle	ected:	12/3/2019 6:20:00 AM	Lab) ID:	011915283-000	09
Method	Parameter	Result	RL	Units		Prep Date & An	alyst	Analysis Date & Analy	/st
METALS									
200.8	Lead	ND	1	l.00 µg/l	Ŀ	12/4/2019	SK	12/04/19 13:50	SK
Client Sample Description	2F-CF-01-0 2ND DRAW		Colle	ected:	12/3/2019 6:21:00 AM	Lab	D:	011915283-001	10
Method	Parameter	Result	RL	Units		Prep Date & An	alyst	Analysis Date & Analy	/st
METALS									
200.8	Lead	ND	1	l.00 µg/l	<u> </u>	12/4/2019	SK	12/04/19 13:52	SK

EMSL 200 Pho http	ISL Analytical, Inc. Route 130 North, Cinnaminson, NJ 08077 ne/Fax: (856) 303-2500 / (856) 858-4571 //www.EMSL.com EnvChemist	ry2@emsl.co	<u>om</u>			EMSL C Custome Custome ProjectII	order: erID: erPO: D:	011915283 SMCG99	
Attn: Sean Smith Smithco Engi 808 Market Si Camden, NJ (ineering Group t 08102 harter-Awbury Campus		Phone: Fax: Received:	((1	856) 365-911 856) 365-9333 12/03/19 9:00 /	I 3 AM			
	An	alytica	l Result	S					
Client Sample Description	n 1B-HA-01-0 WATER FOUNTAIN 1ST FLOOR OU BATHROOMS	TSIDE	Colle	cted:	12/3/2019 6:28:00 AM	Lat) ID:	011915283-001	1
Method	Parameter	Result	RL	Units		Prep Date & An	alyst	Analysis Date & Analy	vst
METALS									
200.8	Lead	ND	1	.00 µg/L	-	12/4/2019	SK	12/04/19 13:53	SK
Client Sample Description	n 2B-HA-01-0 2ND DRAW		Colle	cted:	12/3/2019 6:29:00 AM	Lat	D:	011915283-001	2
Method	Parameter	Result	RL	Units		Prep Date & An	alyst	Analysis Date & Analy	/st
METALS									
200.8	Lead	ND	1	.00 µg/L	-	12/4/2019	SK	12/04/19 13:58	SK
Client Sample Description	 1B-HA-02-0 FOUNTAINS 2ND FLOOR OUTSIDE BATHROOMS 		Colle	cted:	12/3/2019 6:31:00 AM	Lat	D ID:	011915283-001	13
Method	Parameter	Result	RL	Units		Prep Date & An	alyst	Analysis Date & Analy	/st
METALS									
200.8	Lead	ND	1	.00 µg/L	-	12/4/2019	SK	12/04/19 13:59	SK
Client Sample Description	n 2B-HA-02-0 2ND DRAW		Colle	cted:	12/3/2019 6:32:00 AM	Lat	D:	011915283-001	4
Method	Parameter	Result	RL	Units		Prep Date & An	alyst	Analysis Date & Analy	/st
METALS									
200.8	Lead	ND	1	.00 µg/L	-	12/4/2019	SK	12/04/19 14:01	SK
Client Sample Description	n 1F-MO-01-0 NURSE SINK		Colle	cted:	12/3/2019 6:23:00 AM	Lat	D ID:	011915283-001	5
Method	Parameter	Result	RL	Units		Prep Date & An	alyst	Analysis Date & Analy	/st
METALS									
200.8	Lead	ND	1	.00 µg/L	-	12/4/2019	SK	12/04/19 14:02	SK

EMSL Pho http://	ISL Analytical, Inc. Route 130 North, Cinnaminson, NJ 080' ne/Fax: (856) 303-2500 / (856) 858-45' //www.EMSL.com EnvCl	77 71 nemistry2@emsl.com	L		EMSL Order CustomerID CustomerPO ProjectID:	: 011915283 : SMCG99 D:
Attn: Sean Smith Smithco Engi 808 Market St Camden, NJ (ineering Group t 08102		Phone: Fax: Received:	(856) 365-9117 (856) 365-9333 12/03/19 9:00	AM	
Project: Wissahickon C	harter-Awbury Campus)
		Analytical	Results			
Client Sample Description	n 2F-MO-01-0 2ND DRAW		Collected:	12/3/2019 6:24:00 AM	Lab ID:	011915283-0016
Method	Parameter	Result	RL Units	5	Prep Date & Analys	Analysis St Date & Analyst
METALS						
200.8	Lead	ND	1.00 µg	g/L	12/4/2019 S	K 12/04/19 14:10 SK
Client Sample Description	n 1F-WP-01-0 WATER PUMP		Collected:	12/3/2019 6:17:00 AM	Lab ID:	011915283-0017
Method	Parameter	Result	RL Units	5	Prep Date & Analys	Analysis St Date & Analyst
METALS						
200.8	Lead	1.35	1.00 µg	g/L ·	12/4/2019 S	K 12/04/19 14:12 SK
Client Sample Description	n 2F-WP-01-0 2ND DRAW		Collected:	12/3/2019 6:18:00 AM	Lab ID:	011915283-0018
Method	Parameter	Result	RL Units	5	Prep Date & Analys	Analysis St Date & Analyst

9.14

1.00 µg/L

12/4/2019

SK

METALS

200.8 Lead

Definitions:

MDL - method detection limit

J - Result was below the reporting limit, but at or above the MDL ND - indicates that the analyte was not detected at the reporting limit RL - Reporting Limit (Analytical) D - Dilution

12/04/19 14:13 SK